

ABSTRACT OF THE DISCLOSURE

5 Methods of performing separations in microfluidic devices are provided. The methods include the use of pressure to introduce reagents into the device, mix the reagents or react the reagents, and the use of electrokinetic forces to separate the reagents or products. To achieve improved separation efficiency, the depths of the various microfluidic channels are varied. The pressure driven channels provided are deep in comparison to the separation channels in which flow is electrokinetically driven. Also included are
10 microfluidic devices and integrated systems for performing separations in which pressure driven flow and electrokinetic driven flow are integrated.

[illegible]